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FIG.1

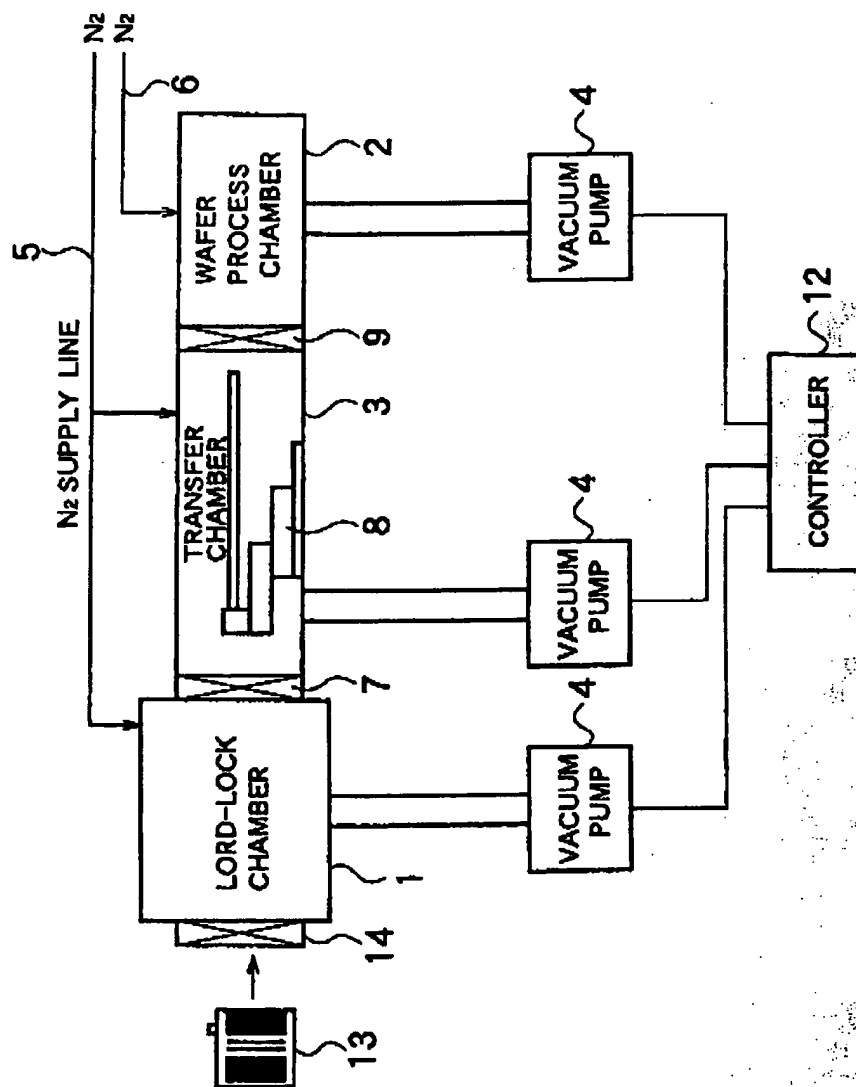
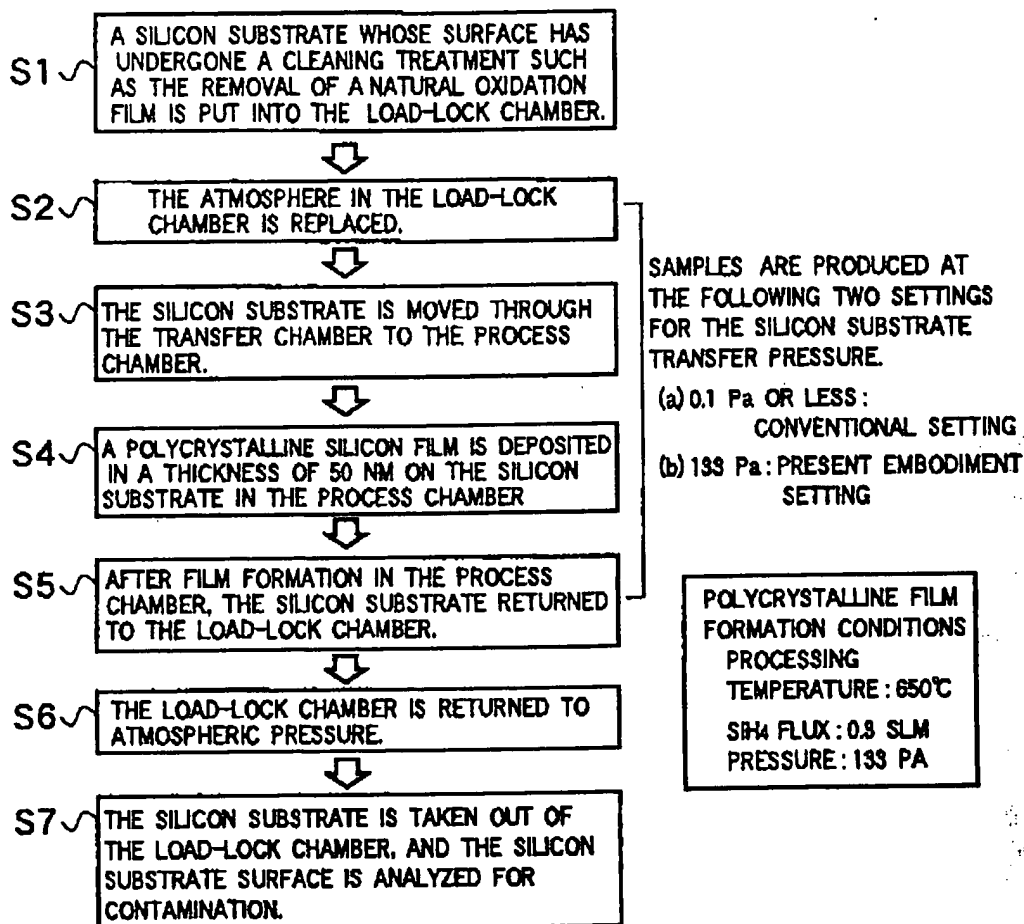
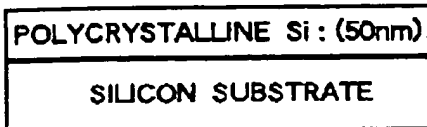


FIG.2



CONTAMINATION ANALYSIS METHOD



THE C (CARBON) CONCENTRATION AT THE INTERFACE BETWEEN THE SILICON SUBSTRATE AND THE POLYCRYSTALLINE SILICON FILM (50 NM) DEPOSITED ON THE SILICON SUBSTRATE WAS ANALYZED BY SIMS.

FIG.3

SUBSTRATE TRANSFER PRESSURE		CARBON CONCENTRATION (atoms/cm ²)
(A) CONVENTIONAL SETTING	ATTAINABLE VACUUM TRANSFER 0.1Pa OR LESS	1.90X10 ¹⁴
(B) PRESENT EMBODIMENT SETTING	183Pa	3.70X10 ¹³

↓
5.0X10¹² atoms/cm²
(BEST DATA)

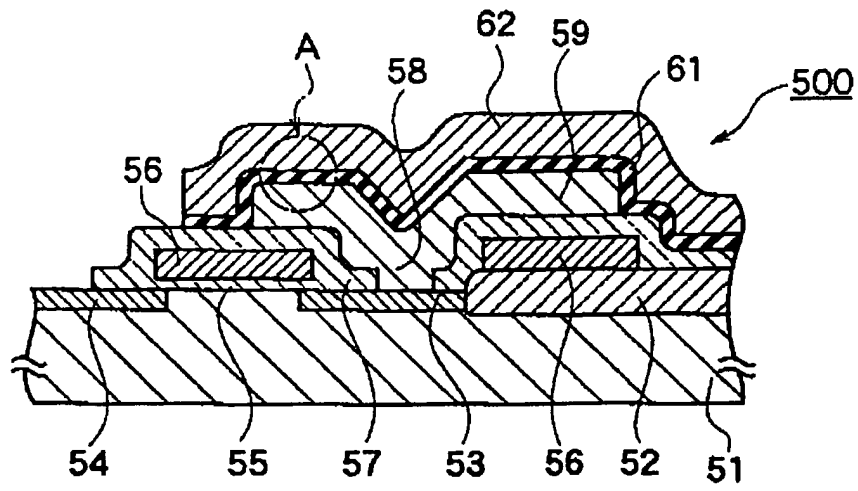
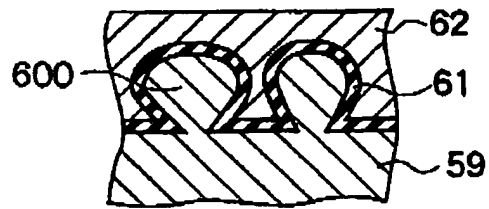
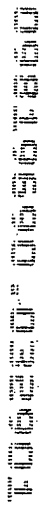


FIG.5





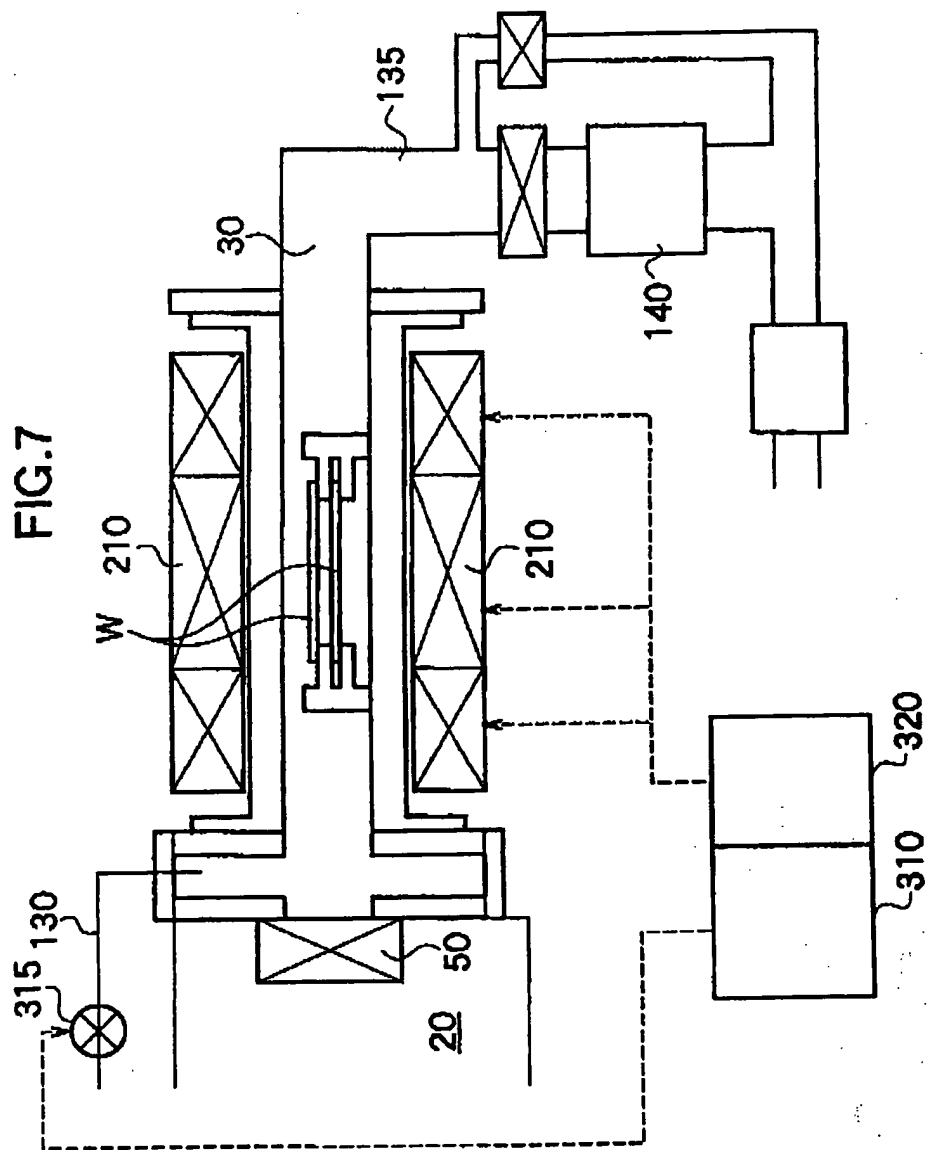
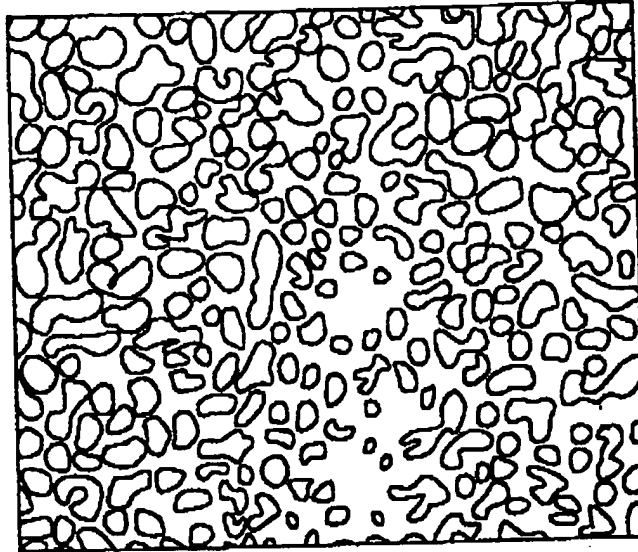
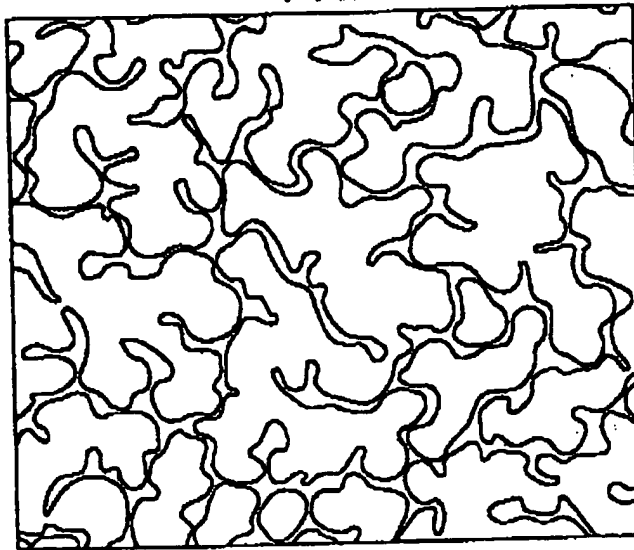


FIG.8



WITH ATTAINABLE VACUUM TRANSFER
INADEQUATE HSG FORMATION
(LACK OF SURFACE BUMPINESS)
DUE TO CONTAMINATION OF
WAFER SURFACE

FIG.9



WITH NITROGEN GAS SUPPLY: 0.5 slm, 50 Pa
ADEQUATE HSG FORMATION (VERY BUMPY SURFACE)